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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/507,792	02/22/2000	Clifford Heath	659-28	2005

7590 11/23/2001

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8th Floor
1100 North Glebe Road
Arlington, VA 22201

EXAMINER

VEILLARD, JACQUES

ART UNIT	PAPER NUMBER
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2171

DATE MAILED: 11/23/2001

9

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.
09/507,792

Applicant(s)
Heath et al.

Examiner
Jacques Veillard

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2171



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Feb 22, 2000
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above, claim(s) None is/are withdrawn from consideration.
- 5) ☒ Claim(s) None is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☒ Claim(s) None is/are objected to.
- 8) ☐ Claims are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☒ All b) ☐ Some* c) ☐ None of:
- ☒ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. .
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- *See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892) 18) ☐ Interview Summary (PTO-413) Paper No(s). .
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 19) ☐ Notice of Informal Patent Application (PTO-152)
- 17) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 7 20) ☐ Other:

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DETAILED ACTION

Specification

1. The following guidelines illustrate the preferred layout and content for patent applications. These guidelines are suggested for the applicant's use.

Arrangement of the Specification

The following order or arrangement is preferred in framing the specification and, except for the reference to "Microfiche Appendix" and the drawings, each of the lettered items should appear in upper case, without underlining or bold type, as section headings. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) **Title of the Invention.**
- (b) **Cross-References to Related Applications.**
- © Statement Regarding Federally Sponsored Research or Development.
- (d) Reference to a "Microfiche Appendix" (see 37 CAR 1.96).
- (e) **Background of the Invention.**
 - 1. **Field of the Invention.**
 - 2. **Description of the Related Art including information disclosed under 37 CAR 1.97 and 1.98.**
- (f) **Brief Summary of the Invention.**
- (g) **Brief Description of the Several Views of the Drawing(s).**
- (h) **Detailed Description of the Invention.**
- (I) Claim or Claims (commencing on a separate sheet).
- (j) Abstract of the Disclosure (commencing on a separate sheet).
- (k) Drawings.
- (l) Sequence Listing (see 37 CAR 1.821-1.825).

Priority

2. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The papers referred therein have been placed of record in the file.

Information Disclosure Statement

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3. The information disclosure statement filed on 7/19/2000 (paper No. 7) complies with the provision of M.P.E.P. § 609. It has been placed in the application file. The information referred therein has been considered as to the merits.

Drawings

4. The drawings filed on 2/22/2000 are approved by the Draftsperson under 37 C.F.R. 1.84 or 1.152 as formal drawings.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claim 10 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for

failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

7. Claim 10 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite in that it fails to point out what is included or excluded by the claim language. This claim is an omnibus type claim.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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9. Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pyne (U. S. Patent 5,721,907) in view of Carson (U. S. Patent 5,978,805).

As per claim 1, Pyne teaches a method and apparatus for remote file transfer applications (See Pyne's Title). The method as taught by Pyne invokes synchronizing data between a receiving computer and a sending computer, wherein the sending computer has a source file and the receiving computer has a reference file and the receiving and sending computers are coupled for communication therebetween by way of a communications link or network (See Pyne Abstract, Fig. 1 and col.3, lines 41-50), and comprising the steps of: I) arranging the source file at the sending computer into a sequence of data blocks, each block comprising a predetermined number of data units, and computing a source key value for each block in the source file (See Pyne's col.2, lines 22-25). These passages of Pyne are not explicitly about arranging file, however, Pyne teaches a dividing file in purpose of arranging the file into a plurality of data blocks; ii) transmitting the source key values from the sending computer to the receiving computer (See Pyne's Abstract and col.2, lines 47-54); iii) at the receiving computer, comparing the source key values with reference key values computed for each predetermined number of contiguous data units in the reference file to determine matches between source key values and reference key values (See Pyne's Abstract, col.2, lines 25-32 and col.5, lines 37-48); iv) communicating from the receiving computer to the sending computer an indication of which source keys do not have matching reference keys, and transmitting data blocks from the source file corresponding to the unmatched source keys from the sending computer to the receiving

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computer (See Pyne's col.2, lines 37-46 and col.5, lines 49-63). Pyne does not explicitly teach a method for v) constructing at the receiving computer a target file from the contiguous data units in the reference file determined to have reference key values matching respective source key values and the data blocks from the source file received from the sending computer, wherein the constructed target tile at the receiving computer is synchronized with the source tile at the sending computer. However, Carson, in the same endeavor, teaches a method and apparatus for synchronizing file stored in memory of two remotely located systems (See Carson's Title and Abstract) includes the limitations of: v) constructing at the receiving computer a target file from the contiguous data units in the reference file determined to have reference key values matching respective source key values and the data blocks from the source file received from the sending computer, wherein the constructed target tile at the receiving computer is synchronized with the source tile at the sending computer (See Carson's Fig.1, col.3, lines 57-67 to col.4, lines 1-56 and Appendix A).

Pyne and Carson are combinable because they are from similar problem solving area synchronizing files located at remote systems.

It would have been obvious to a person of ordinary skill in the art, at the time the invention was made, to combine the teachings of a remote files transfer application as taught by Pyne with Carson's teachings for synchronizing files for the motivation of actuating synchronization during the update files located at both systems.

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As per claim 2, the limitations of: “wherein the source key values for the sequence of source file data blocks are pre-computed and stored for subsequent use” as specified thereof is present in the proposed combination indicated above (See Pyne’s col.4, lines 1-4).

As per claim 3, Carson teaches the limitations, wherein the sending computer (source system) and receiving computer (destination system) are coupled to communicate by way of an intervening computer containing a cache memory (See Carson’s col.2, lines 48-50), and wherein a copy of the source key values are stored in the intervening computer cache memory and provided therefrom to the receiving computer (See Carson’s col.5, lines 64-67 to col.6, lines 1-6 and lines 15-25).

Claim Rejections - 35 USC § 102

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371© of this title before the invention thereof by the applicant for patent.

11. Claim 4 is rejected under 35 U.S.C. 102(e) as being anticipated by Carson (U.S. Patent 5,978,805).

As per claim 4, Carson discloses a similar and method and apparatus for constructing a target data file at a first computer from a reference file stored at the first computer and a source

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file at a remote second computer such that the constructed target file is synchronized with the source file (See Carson's Abstract), typically the method comprising the steps of: I) requesting and receiving from the remote second computer a source file summary comprising a sequence of source key values being codes derived from data blocks of predetermined length making up the source file (See Carson's col.2, lines 23-45); ii) generating a reference key value for each contiguous portion of the reference file of predetermined length and comparing the reference key value with the received source key values, to determine matches therebetween (See Carson's col.2, lines 46-62, col.3, lines 14-27 and col.5, lines 17-29); iii) requesting and receiving from the remote second computer those data blocks from the source file for which no match was found between the corresponding source key value and the reference key values (See Carson's col.2, lines 63-67 to col.3, lines 1-13 and col.6, lines 26-43); and iv) constructing a target data file from the received source file data blocks and those contiguous portions of the reference file for which the corresponding reference key value was found to match a source key value, wherein the constructed target file is synchronized with the source file (See Carson's col.3, lines 57-67 to col.4, lines 1-56 and Appendix A).

12. Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Carson (U. S. Patent 5,978,805) in view of Mattis et al. (U. S. Patent 6,289,358 hereinafter Mattis).

As per claim 5, Carson teaches the claimed limitations: wherein the first and second computers are coupled to communicate over a computer network (See Carson's col.4, lines 57-67

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to col.5, lines 1-16) , and wherein the step of requesting and receiving the source tile summary includes providing the source file summary to the first computer from a copy of the source file summary generated at the second computer and previously received (See Carson's col.6, lines 14-26). Carson does not explicitly teaches a method for synchronizing files stored in memory of two remotely system including a proxy computer which is closer or more conveniently located to communicate with the first computer than is the second computer, and stored by the proxy computer. However, Mattis teaches a method for caching and delivering an alternate version from among a plurality of alternate versions of information objects (See Mattis's Title and Abstract) and including a proxy computer which is closer or more conveniently located to communicate with the first computer than is the second computer, and stored by the proxy computer (See Mattis's Figs. 1 and 2, and col.2, lines 7-14).

It would have been obvious to a person of ordinary skill in the art, at the time the invention was made, to modify the teachings of synchronizing files between two remote system as taught by Carson by the proxy server interposed between the clients and the server as taught by Mattis because the proxy provides a middleman gateway service, acting as a server to the client and as client to the server. Therefore the client may be able to access replicas from a topologically proximate cache faster than possible from original web server, while at the same time reducing Internet server traffic.

As per claim 6, the limitations " wherein the step iii) of requesting and receiving data blocks for which no match was found includes providing those data blocks to the first computer

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from the proxy computer from a copy of the source file data blocks previously provided from the second computer and stored in a cache memory at the proxy computer” as specified thereof is present in the proposed combination indicated above (See Mattis’s col.2, lines 7-11 and col.6, lines 11-17).

13. Claims 7, 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pyne (U. S. Patent 5,721,907) in view of Carson (U. S. Patent 5,978,805) and Mattis (U. S. Patent 6,289,358).

As per claim 7, Pyne teaches a method and apparatus for remote file transfer applications (See Pyne’s Title). The method as taught by Pyne invokes synchronizing data between a receiving computer and a sending computer, wherein the sending computer has a source file and the receiving computer has a reference file and the receiving and sending computers are coupled for communication therebetween by way of a communications link or network (See Pyne Abstract, Fig. 1 and col.3, lines 41-50), the method comprising the steps of: I) arranging the source file at the sending computer into a sequence of data blocks, each block comprising a predetermined number of data units, and computing a source key value for each block in the source file (See Pyne’s col.2, lines 22-25). These passages of Pyne are not explicitly about arranging file, however, Pyne teaches a dividing file in purpose of arranging the file into a plurality of data blocks; ii) transmitting the source key values from the sending computer to the receiving computer (See Pyne’s Abstract and col.2, lines 47-54); iii) at the receiving computer, comparing the source key values with reference key values computed for each predetermined

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number of contiguous data units in the reference file to determine matches between source key values and reference key values (See Pyne's col.2, lines 25-32 and col.5, lines 37-48); iv) communicating from the receiving computer to the sending computer or proxy computer an indication of which source keys do not have matching reference keys, and transmitting data blocks from the source file corresponding to the unmatched source keys from the sending computer or proxy computer to the receiving computer (See Pyne's col.2, lines 37-46 and col.5, lines 49-63). Pyne does not explicitly teach a method for v) constructing at the receiving computer a target file from the contiguous data units in the reference file determined to have reference key values matching respective source key values and the data blocks from the source file received from the sending computer, wherein the constructed target file at the receiving computer is synchronized with the source file at the sending computer. However, Carson, in the same endeavor, teaches a method and apparatus for synchronizing file stored in memory of two remotely located systems (See Carson's Title and Abstract) includes the limitations of: v) constructing at the receiving computer a target file from the contiguous data units in the reference file determined to have reference key values matching respective source key values and the data blocks from the source file received from the sending computer, wherein the constructed target tile at the receiving computer is synchronized with the source tile at the sending computer (See Carson's Fig.1, col.3, lines 57-67 to col.4, lines 1-56 and Appendix A).

✕ → Pyne and Carson are combinable because they are from similar problem solving area synchronizing files located at remote systems.

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It would have been obvious to a person of ordinary skill in the art, at the time the invention was made, to combine the teachings of a remote files transfer application as taught by Pyne with Carson's teachings for synchronizing files for the motivation of actuating synchronization during the update files located at both systems. >

The combination of Pyne and Carson does not teach a proxy computer where the sending computer and the proxy computer are couple for communication therebetween by way of said network. However, Mattis teaches a method for caching and delivering an alternate version from among a plurality of alternate versions of information objects (See Mattis's Title and Abstract) including a proxy computer with a cache located in the proxy server that is logically interposed between the client computer and the server computer (See Mattis's fig.1 and col.1, lines 66-67 to col.2, lines 1-14).

It would have been obvious to a person of ordinary skill in the art, at the time the invention was made, to modify the combination teachings as taught by Pyne and Carson by the proxy server interposed between the clients and the server as taught by Mattis because the proxy provides a middleman gateway service, acting as a server to the client and as client to the server.

[Therefore the client may be able to access replicas from a topologically proximate cache faster than possible from original web server, while at the same time reducing Internet server traffic during the synchronization process.]



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As per claim 8, the limitations “wherein the step of transmitting the source key values from the sending computer to the receiving computer includes storing a copy of the source key values in a cache at the proxy computer and transmitting the source key values from the proxy computer to the receiving computer on request” as specified thereof is present in the proposed combination indicated above (See Mattis’s col.2, lines 6-14).

As per claim 9, the limitations “wherein a copy of at least some of the source file data blocks are transmitted from the sending computer and stored in a cache at the proxy computer and wherein the step of transmitting data blocks from the source file includes transmitting said data blocks from the proxy computer cache copy to the receiving computer” as specified thereof is present in the proposed combination indicated above (See Mattis’s col.5, lines 43-67 to col.6, lines 1-17).

Other Prior Art Made Of Record

14. Boothby(U. S. Patent 5,684,990): Disclosed a method for synchronizing the data records of a plurality of disparate databases.

Singh et al.(U. S. Patent 5,805,809): Provided an instable performance accelerator for computer network distributed file systems wherein a local cache storing data residing on a server.

Bauer et al.(U. S. Patent 5,884,3325):Disclosed a database synchronizer that facilitates computing system which have client-side and server-side....

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Bhide et al. (U. S. Patent 5,852,717): Disclosed a system and method of optimizing the performance of computer networks.

Free (U. S. Patent 5,261,060): Disclosed a system of transmitting data from a sending computer to a receiving computer in a 8-bit parallel format.

Conclusion

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

16. **Any response to this action should be mail to:**

Commissioner of Patent and Trademarks

Washington, D.C. 20231

Or faxed to:

(703) 746-7239 (for formal communication intended for entry)

Or:

(703) 746-7240 (for informal of draft communications, please label

“PROPOSED” or “DRAFT”)

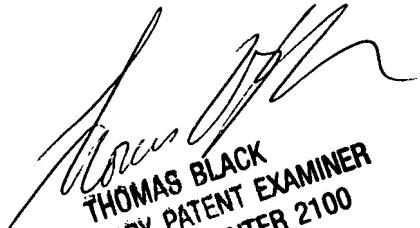
Hand - delivered responses should be brought to Crystal Park II, 2021 Crystal Drive, Arlington.

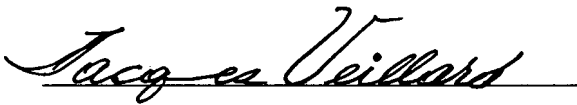
VA, Fourth Floor Lobby (Receptionist Telephone No. (703) 305-3900).

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17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jacques Veillard whose telephone number is (703) 305-7094. The examiner can normally be reached Monday through Friday from 9:30 AM to 4: 30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Black, can be reached on (703) 305-9707. The fax phone number for this group is (703) 308-5403.


THOMAS BLACK
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100



Jacques Veillard

November 18, 2001